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"Salvation of India lies in Cottages."

—*MAHATMA GANDHI*

DEARTH OF CREATIVE AND CONSTRUCTIVE TALENT

THE evil effects of foreign rule during centuries past are nowhere more pronounced and despairing than in the loss of creative and constructive talent of our people. We had enough of this sad and distressing experience in conducting a number of public institution during the past 40 years of our life. This has been further confirmed during the post—Independent period when numerous administrative and development schemes costing enoumous public funds only produced poor results or ended in failure due fo lack of constructive and creative approach of the ruling authorities.

It is astonishing in this context that repeated failures entailing huge wastage of money and human effort, which has varily brought the country on the verge of economic bankruptcy have not awakened the authorities in administration to adopt and encourage constructive-minded approach to tackle the problems of national development. What has greatly dismayed and irritated the people against the present administration is that the opportunities of creative enterprise which should have been normally opened to them after the country has became free are largely barred against them due to confused and ill-conceived policies of the adminstration.

Destructive Tendencies at Work

The Indian scene today after 11 years of Independence is a vast arena of free play of unwanted and nationally harmful tendencies of destruction and exploitation for personal ends which have engendered fissiparous tendencies all over and created a climate of frustration and inaction in the country.

Lately, we are having too numerous manifestations of destructive tendencies let loose by the follies of omission and commission of the authorities in the open revolt of the people against the 'Law and order' of the country. The talk of civil war in Kerala, every day strikes in industries and works of public utility, indiscipline among students, linguistic troubles, food and financial crises and above all growing atmosphere of violence accompanied with police firings here, there, and everywhere are all symptomatic of destructive tendencies at work. If what one reads in the press and observes round about him are any indication, the situation that is developing in the country, to say the least, is perilous.

Road to Destruction

Reviewing the present dangerous developments in the country, the Prime Minister, in his message on the 11th

anniversary of Independence day is reported to have deplored the happenings in the country and stated in part :—

"It is painful that on the Independence day, with joy in our heart, we are also tasting bitterness. we see people quarrelling and killing one another.

"We talk in a big way to the world and give advice to others to hoist the flag of panchsheel. This had its effect on others, but we have to lower our head in shame when we see what is happening in our country. It will be good if we can take care of ourselves first.

"Let us understand that no freedom, no socialism and no democracy is possible if there is quarrel and conflict in the country.

"The trouble that is going on in Gujarat has no relation to changing any decision or policy, but it is the road to destruction.

Freedom was meant to set the people on the road to construction and speedy economic development and not on the road to destruction which the Prime Minister greatly deplores. If the people have taken to the road to destruction that only proves that the administration has failed to direct the energies of the people to nationally constructive and creative ends during the last 11 years of their rule.

While there has been much of insincere and impractical talk and wasteful effort at planning and development programme, which have hardly produced noticeable and satisfying results, the members of the ruling party, with only few exceptions here and there, kept themselves busy in making hay while sunshines to the disadvantage and misery of the vast majority of people. The present mood of defiance and revolt against the authority may be traced to the unjust behaviour of the ruling party and neglect and indifference of the administration towards the interests of the people. The seeds of favouritism, nepotism and rank corruption sown by the present administration since independence have only produced this unwanted crop of violence and defiannce to the authority to the ultimate ruin of the country.

The fruits of freedom, democracy and socialism referred to by the Prime Minister in his message are hardly seen, felt or tasted by the people to be appreciated. What they see and experience in their everyday life is that life has become more difficult than what it was in pre-independence days ; the prices of prime necessities of life have gone sky-high and beyond their capacity to meet ; life and property has become more insecure ; the administration is unsympathetic and unresponsive and they are being over-taxed beyond their capacity to pay. How on earth could such conditions under which the people have been made to suffer all these years and for which the Prime Minister and his unbridled administration are primarily responsible would produce any other repercussion but that of defiance to the authority which, they believe, is the cause of their misery.

Democracy on Trial

Democratic form of Government adopted in this country has failed to make constructive contribution to the betterment and happiness of the lot of the people. On the contrary, it has been associated with all sorts of weaknesses and failures of administration and deterioration of standards in moral, economic and social life of the people. The volume of people's misery has vastly increased since Independence filling the entire atmosphere of the country with gloom and frustration. Conditions, such as they obtain in this country after 11 years of democratic rule, which in the words of the Prime Minister, are leading the people to the 'Road to Destruction' do hardly promise success or survival of democracy.

Whether one likes it or not the change in the form of Government to ensure good and efficient administration which is the *sine qua non* of people's progress and prosperity and which the present democratic administration has failed to give during the last 11 years of its

rule, is inevitable in the near future. Obviously, people are not enomoured of a form of Government if it lacks substance and spirit to promote their happiness and development.

Absence of Constructive Leadership

The greatest drawback of the present Congress regime is that it lacks creative and constructive—minded leadership. The leadership that rules the country today had their life's training in the methods of destruction and defiance to authority during the days of the freedom's struggle. Life pattern being unchangeable, it could not be expected of them to conceive constructive and practical policies for people's development and to execute them dexterously step by step oblivious of limelight, praise and publicity to which they are used all their life and without which life would cease to be worth-living for them. They have aspired, struggled and worked for capturing power and it is the excessive love of power among the present leaders without the capacity to make use of the same for achieving the ends of constructure nation-building which is the bane of the country to day.

The emergence of constructive leadership appears to be the only cure to check the process of demoralisation, destruction and disintegration set in the country. That will have to be created out of fresh blood discriminately and assiduously and with proper training and discipline. It appears to be a long-term process, but there seems to be no escape from this long and tedious journey.

ECONOMIC CLASSIFICATION IN INDIAN CENSUS

By: **MAHESH CHAND**

OF late some views have been expressed about decisions in respect of 'means of livelihood', 'economic status' and 'employment status' so for as the 1961 population census is concerned. At the last (1951) census, there were eight livelihood classes, four categories for employment status and three for 'economic status'. The livelihood classes were maintained more or less for enabling comparability with data collected at the past censuses. Employment status was introduced for the first time in keeping with international standards. The title 'self-supporter' was used in place of 'earner' in order to include unearned income receivers.

Livelihood Classification

The livelihood classification was really a classification for industrial status, with the difference that the industry 'agriculture' had been divided into four sub-groups to throw light on non-operator-owners of land, owner-operators, nono-wner operators of land and agricultural lobourers. An agriculturist was to be classified (say) under 'cultivator of land wholly or mainly unowned' if cultivation of such land was *his principal means of livelihood* and not even if such cvltivation lead to a minor part of his income. It has been found later that even an agricultural labourer with a small piece of land has been classified as cultivator of land wholly or mainly unowned. If so, the blame should perhaps be placed on the shoulders of the enumerators.

Because zamindari and other intermediary interests were being abolished, it is found that many owner non-operators returned themselves as owner operators and were classified under 'cultivators of land wholly or mainly owned'. It was unfortunate that this could not be foreseen and enumerators alerted.

Does that mean that the means of livelihood classification be given up now? Comparability and compactness

still demand that it be maintained. At a time when it is a question of moving manpower from agriculture it is necessary that we must know how the agriculturists are distributed. The classification does not in any way affect the detailed classification industry-wise.

No doubt there is reason to ask for a sub-classification of cropsharers under cultivators of land wholly or mainly unowned'. Similarly, it would be sensible to ask that 'agricultural plantations, forestry and fishing' should be shifted from livelihood class (production other than cultivation). Either these be given a separate sub-class under livelihood category or allowed to be distributed in the first four livelihood classes. We would prefer a separate class.

Activity status

The last census used the categories 'employer', 'employees', 'independent worker' and 'others' for further classification of persons returned as self-supporters. Besides the self-supporters, there were the earning dependents and dependents. Earning dependents naturally included both those who worked for others and those who helped in the family enterprise. The head of the household was to declare who was the earning dependent and who a self-supporter. The employment status thus seems to link up with the dependency classification, giving us six classes of activity status.

In criticism it may be said that these six classes do not enable us to throw light on the following types of workers :-

1. Unpaid family workers. 2. Salaried workers. 3. Casual workers. 4. Unemployed seeking job for the first time. 5. Unemployed seeking job not for the first time. 6. Students. 7. House workers. 8. Infirm. 9. Beggars. 10. Institutional population.

It may also be remarked that it was really difficult for the heads to dedide and declare correctly whether an earning member of the household (or an unpaid family worker) was to be classified as 'self-supporting' in the sense his work would entitle him to a remuneration sufficient for the maintenance of himself.

It has been argued by others that heads may declare themselves as self-supporters and declare the sons as earning dependents merely on 'prestige' grounds, in which case the head's principal means of livelihood get additional weightage which will distort the picture. But the danger shall remain even if we do away with the term "earning dependent" and "dependent" as also "self-supporter" and instead introduce the labels 'own account worker', employer', employee' and unpaid family worker'. Out of prestige considerations the head may still declare himself as the only own account worker (or employer) and return others as unpaid family workers.

Besides, it is hoped there is general agreement that the industrial and occupational distribution be recorded on the basis of the household in less developed countries like India. The livelihood distribution of self-supporters serves this purpose at present. In order to avoid introducing investigator bias, it seems desirable to leave it to the head to declare the self-supporters. With a view to fiind out the occupational distribution of all workers, it would be sufficient to add together the principal means of livelihood data for the self-supporters and the secondary means of livelihood distribution data in the case of earning dependents.

At the present time the planners must find out who are self supporters and their occupational distribution, as also the distribution of earning dependents with secondary means of livelihood. If we record only the activity status, we will be losing the analysis by the household, which is possible at present through an analysis

of the principal means of livelihood of the self-supporters. If we want to study the distribution of principal means of livelihood against the subsidiary means of livelihood, this can be had by having a two-way tabulation for the principal and secondary means of livelihood of the earning dependents.

Yet in our opinion it will be best to adopt a detailed activity status classification but note against each member's slip the means of livelihood (or industry) of the person on whom the member is dependent.

In some of the surveys the following classification was adopted.—

(a) earner from gainful economic activity. (b) earner from non-gainful activity. (c) earning dependent from gainful activity. (d) earning dependent from non-gainful activity. (e) unemployed.

We feel that the distinction by gainful activity in the case of earning dependents is not important and hence, not necessary.

It must be added that the activity status classification in our mind is the following :-

1. Self-employer 2. Employer 3. Employee 4. Unpaid household worker 5. Income receipients 6. Seeker of job for the first tine 7. Seeker of job not for the first time 8. Houseworker 9. Student 10. Infirm 11. Beggars 12. Institutional population 13. Others

Yet it must be said that the idea of recording student separately is not very justified. Educational statistics already are available on an annual basis. Besides, with the opening of the camp colleges, it should create a problem whether a person working is a concern during the day and studying in a camp college at night should be recorded as 'employee' or 'student' though a clear answer can be given : he is an employee.

There will no doubt be persons who are (1) both income-recepients and employer (or employee), or (2) employees and .unpaid household workers. A person may have a good bank balance (or house property) and yet may have a daytime job. There may be a government servant who attends office during the day and manages a shop morning and evening leaving a son to manage things during the day when business is slack. The decision has best to be left to the respondent to declare whether he is an employee or income-recepient or self-employer.

In opining that on each slip there be recorded the means of livelihood of the person on whom the member is dependent, we have, by implication, asked for the continuation of the practice of recording the means of livelihood. Instead of eight means of livelihood there may be ten means of livelihood, one class may be created to accommodate 'agricultural plantations, forestry and fishing' and another for 'village artisans, handicraft workers'. We would also say that one who is mainly a crop sharer may be so indicated separately in the case of "cultivators of land, wholly or mainly unowned".

Under Employment

It is very clear to many by now that unemployment is not as important as under-employment in this country and it would be useful if some idea of under-employment could be had on a nation-wide basis. It has been suggested that three or four intensity-categories may be used to classify the workers.

In our opinion, under-employment is to be found more in the rural areas where the determination of intensity into categories (say) full, half, quarter and nil will be very difficult. Instead we would suggest that the question be put to persons falling in the first five activity categories whether they are seeking jobs on account of work being inferior or less. On the other hand, intensity categories may be more feasible in the case of non-agricultural economic activities. But we are afraid in the present atmosphere correct classification shall not materialise. An industrial worker with go slow tactics would not reveal the fact that the work which he accomplishes everyday could be improved upon. Similarly, a person employed in the Accountant General's Office may not say clearly that the work in the office is only for two or three hours everyday. It must be added that the mention of A. G.'s Office should not be taken to be a reflection of the state of affairs there. But it is an open secret that office

employees are able to spend a greater proportion of the office hours without desk-work.

In summary, our suggestions are as follows:-

1. Retain the means of livelihood classification and imporve upon it by adding two more classes, one for 'agricultural plantations, forestry and mining' and another for 'handicrafts and cottage industries', as also indicating the crop-sharer under livelihood class II separately.

2. Adopt a 13-class activity classification, but it must be noted against each dependent the means of livelihood of the person on whom he is dependent.

3. Record for those falling in the first five activity-categories whether they are seeking another job on account of work being inferior or less.

PRODUCTIVITY IN INDIAN AGRICULTURE

By : **PARESHNATH CHATTERJEE**

Introduction

IT is indeed encouraging to note that along with a drive for increased industrial and organisational productivity the National Productivity Council will also engineer the furtherance of agricultural productivity in India, to include in the purview of the Council all facts of the organised endeavours of any kind. This emphasis for increased productivity will be all the more important in the domain of agriculture because, as we all know, this front has hitherto been one of the most neglected sectors in the face of a herculean task the Indian agriculture has been called upon to perform—in feeding hungry millions and in cloting machines with raw materials.

We may look askance at the proposition juxtaposed with the declared objective in our Five Year Plans but truth stands all rhetorics to the contrary to show that our much publicised progress in the agricultural front was as much due if not more (it is much more in fact) to the unfailing bounties of Providence as it is for the planned efforts. We were of course wise to admit the reality though reluctantly. A deeper probe convinces the unprejudiced that such a pessimistic state of affairs, spelt in the failure of monsoon, droughts, low yield and many other factors, is not inevitable if our approach is in the right direction and affection in the proper place. The productivity approach to the problem of agriculture can solve much of the currently frustrating bottlenecks in this context; for productivity not merely indicates a standard of measure to take to but also signifies whither action lies and of what nature.

Efficacy

Productivity commonly connotes a ratio of the output raised in an accepted standard of measure and the resources put in for raising the output. Through the numerator, the ratio remains quite sensitive to changes occurring in the realm of production and any movement of the ratio may be indicative of some action desired. In agriculture, the application of the productivity techniques is itself an uphill task; for it involves a drastic change of outlook among the farmers and their education and training. It is not hard, these days, to appreciate the damage so far done, with a stabbing effect, to the Indian economy by the stagnatory outlook towards agriculture—in terms of the implements utilised and methods employed. But while education of farmers is a long term project, the institution of productivity techniques stands on no elaborate or costly paraphernalia, with a set of instructions on what to do and how. It is in their own interest that the farmers will show their keenness if, of course, they can be convinced that better results ensue from the newer approach.

Some Pointers

Indian agriculture has been an affair blind to the core because so much depends on chance elements in this endeavour that the farmers are quite disposed to untoward results after year-long toils and they do not realise till the

last moments where their efforts will land them. This has resulted from the absence of watch-points for gauging results step by step and a dismal lack of education has aggravated the problem. We may appreciate this fact when we consider how price distortions have become the rule in a number of commodities like jute and how a long practice has lost for us all venues for correction of the distorted price structure. In jute, the price structure of the manufactured commodities has been like 66.5% cost of raw jute, 33.5% cost added by manufacture which means that little is left for the manufactures to exert for reducing costs; and yet the farmer's share in the whole affair has been quite low, much lower than what middlemen grab. All this demands a cost-consciousness in Indian agriculture so that proper senses of economy may dawn on the sector.

Outlook

What Indian agriculture needs most is a renovation of outlook and an all-out effort at that would save us from frustration and the resultant problems. The age-old implements of a wooden plough and a pair of rickety bullocks can hardly serve our purpose. In the context of the five year plans we have already started thinking in terms of tractors and fertilisers, though on a limited scale. The productivity techniques conscientiously applied to agriculture will show which way the results lie best. In this regard, we may consider some ratios that will be helpful for gauging the attainments vis-a-vis the efforts and resources put in. The ratios are simple and can be made intelligible to the farmers.

(a) Produce Raised (in quantity, number or value) / Manyear Hours.

(b) Produce (in quantity or value) / Seeds Sown (in quantity or value).

(c) Produce (in constant value) / Resources Input in constant value).

(d) Extra Produce (in constant value / Resources Applied at Betterment of Farming Methods (i. e., fertilisers, tractors, etc.

Some such ratios, in approximate terms, are present notionally in the farmers' minds and whenever a stated quantity of grains is harvested, for instance, a farmer compares this with some other year's results and mentally assigns some reasons for the difference—for better or for worse.

The ratios described above may be considered in some detail:

(a) The human interest in watching the results that human efforts bring forth is but quite natural and in gauging the output in terms of manyear hours this interest is given vent to. Manyear of some 3000 or more or less hours may be taken as the standard with an eye to the circumstances in which farming operations are carried and the usual number of hours per man put in the process during a year. This ratio may be changed or moulded to suit the particular conditions. For instance, in cases where rotational crops are raised manyear hour for one particular crop may be misleading. Paddy may require some five months from the sowing of seeds to the reaping of harvest and the hours of actual work in the field during these five months may be taken as a more suitable method. Regarding the measurement of the produce raised, the same crop and same standard offer no particular difficulty. This serves as an effective guide to the farmers. But for different crops and an overall ratio for the sector of agriculture, considerable difficulty ensues to rid of the vague and arbitrary nature of measure agreed upon for this purpose.

(b) For the betterment of yield per a stated unit of area improved seeds are indispensable. Under the five year plans, "better seeds for greater yield" has been a common expression in the official circle. To taste the efficacy of the suggestion the farmers can apply the ratio. The extra produce on the application of improved seeds, other things remaining the same, will indicate the effictiveness of these seeds and the money put to this purpose. The different qualities of seeds going by the brand "improved" can be put to test in this ratio. The farmer, once he is convinced of the effectiveness, will take to these as worth the attempt and the arena of application will extend.

(c) In a long range perspective, the ratio of produce in constant value and the resources input in constant value will indicate in unfailing terms the direction in the return for investment in agriculture. The indications shall offer the farmer clues for intensifying his efforts and the factors that attempt to go out of joint. He can compare the results of previous years with those of a particular year and analyse the reasons that are responsible for causing a variation in the produce. "Constant value" disposes of the difficulties caused by market fluctuations and the relative changes in the interaction between demand and supply of the available capital, on the one hand, and those of the produce placed for sale, on the other.

(d) The ratio of extra produce (value) and resources input for renovation in methods shows the trend that the increases in produce initiate as a result therefrom. In the context of the five year plans this ratio is particularly useful. In the wake of a national consciousness it is imperative for our agriculture to respond to the call of the times to fit into the pattern of the envisaged integrated development. In this, the ratio helps to show the results that may accrue from the application of up-to-date techniques in agriculture.

Whither Solution

In this connection it is worthy of mention that, of late, an opinion has been in the air that Indian agriculture for its improvement should not be oblivious to a brake while it is set at a top speed for increased production. It has also been advanced that chemical fertilizers, etc., do not result in a long range benefit and that farming on modern lines as has been experimented in many countries of the West does not land, in the long run, in the best advantage, considering these from the points of view of permanent soil properties and costs. Instead, the traditional methods have been advocated. In the case of manuring, the usual green manure and cowdung, etc., have been favoured.

True, these are more suited to the Indian conditions in view of the fact that a sudden and drastic change may result in an ill-assimilation of it. But that a stagnatory outlook is most undesired can hardly be denied. Modernization should be by doses and this should be brought about in the broad-based concept of co-operativization of agriculture. The disadvantages suffered by Indian agriculture from the ills of subdivision and fragmentation of holdings, lack of finance and health among the farmers and an absence of organisation are indeed too much to allow these evils to endure for long and all these can be very successfully encountered on the co-operative lines.

Conclusion

Indian agriculture in the new era of much greater responsibilities as the feeder of millions of mouths and machines cannot thrive on a frustrated sense of economy and the application of the productivity techniques will open up for Indian farmers a front of appreciation of their productive endeavours that will not only give them the satisfaction of having a knowledge of the trends but also indicate in unfailing signals the ways where restraint needs to be exercised or caution needs to be taken. The ignorance of farmers of the latest methods in farming and agriculture has long since ceased to be blissful in the agony of the centuries and the lesson taken from the inactivity in that regard will surely provide the elixirine for rejuvenation of the sector in all facets of its existence to secure for us a future of plenty and abundance.

THE PROBLEM OF OUR FOOD

By: **R. S. DUBHASHI**

TEN years have passed since we attained political Independence and our country has taken the place as a free country on the map of the world, but economically we have yet to achieve freedom in the true sense of the term.

In the domain of our food requirements, we are yet dependent on foreign countries and are hoping against hope that we will achieve independence in food in the near future. Soon after the attainment of independence, our Prime Minister declared that food would not be imported from foreign countries after 1952, declaring the determination of his mind.

To achieve this, he invited Lord Boyd Orr, the ex-Secretary General of the F.A.O. to study the food situation in this country and to give his expert opinion as to how to achieve the goal. Lord Boyd Orr suggested that the food production drive should be carried out on a war footing and so, to implement this suggestion a Food Commissioner was appointed at the Centre with necessary links in the States.

Thereafter came in the Community Development Projects and National Extension Service Schemes, under which talukas after talukas were taken up for the programme of all-round development in the life of the Community as a whole, development of agriculture being one of the important planks in the programme.

A special scheme known as the Japanese Method of Paddy cultivation was also launched all over India with the appointment of special staff and allotment of special funds for the purpose. With the completion of the First Five Year Plan it was declared from house tops that we had achieved self-sufficiency in food and that we could even export surplus food to foreign countries to earn foreign exchange.

The Scarcity Cry

Within a year of the start of the Second Five Year Plan, however, the cry of insufficiency of food has started again. The statements about sufficiency and insufficiency of food alternated with the result that the public in general became nervous and traders started hoarding of stocks and raising the prices. In these events, it was considered necessary to appoint a probe Committee, popularly known as the Ashoka Mehta Committee.

This Committee has expressed the opinion that for some years more, we will have to continue importing food from foreign countries and that it would be necessary to set up a Price Fixation Board and a Price Stabilisation Board.

In his optimism, the Prime Minister has again declared that the food production can be easily increased so as to cover the gap without having to continue importing food from abroad and has now appointed a Special-Agricultural Production Advisor at the Centre. Thus efforts are off and on being made both at the Centre and in the States to upset old set-up of staff at a fairly huge cost and each time promise a vista of plenty of food production, upsetting the line of work already in hand.

Food rationing

All this will show that in the matter of our food, in spite of all that is said and done, we are where we were after ten years of independence ; nay the problem of our food has deteriorated. Before the second world war, whatever was done

by the then Government with regard to import or export of food, the common man had not much to worry in getting his requirements of food at reasonably low rates to suit the average income of an Indian. The staple grains of food were easily available in the market. The gravity of the food situation became known for the first time to the man in the street with the launching of the scheme of rationing which as far as he understood was due to the demands on food by the armed forces in and out of India.

Whatever may be the academic merits or demerits of rationing, the misery of the common man started. He had to wait at the ration shops with bags in hand in long queues. Even Mahatma Gandhi smelt foul play in the administration of the concerned Departments and advised abandonment of rationing on whatever grounds it be. The system of rationing forced the people to change their food habits in a very large measure. The rice eater had to take to wheat or bajra or jawar as was available and as to the quality of the grain, the common man became truly inter-provincial and international. The Bombay man had to eat his wheat from--Australia and rice from Bangal or Madras. The Madras man had to depend for his rice on Bombay. Black marketing was a word that came in vogue for the first time and galored and the misery of the common man knew no bounds.

It was, therefore, really a sigh of relief when the rationing was withdrawn and consequently the high prices began showing a downward trend. This, however, did not last long and again the problem of food has raised its head and is staring the common man in the face.

The reasons given by tbose in authority for this—nightmare are inter-alia (1) the natural calamities such as bad season (2) the general improvement in the standard of living of the people tending to consumption of more food and (3) the rapid increase in population. The first two reasons cannot be taken to be convincing. The natural calamites such as bad season, drought, occurance of pests and diseases etc. are events which took place at all times in the past and will always take place in future in any country. It is no use putting this as an argument whenever convenient. So also it is an irony of fate to say that the condition of the people has improved and that they are taking more food. If a survey of the middle class or lower class people is taken honestly, it will present a dismal picture.

The third reason that there is incommensurate increase in population is true to some extent, but this problem of inadequacy of food for the increasing population should not be felt to the extent that it is done in view of the vast scope for improvement and the expenditure incurred towards food production from year to year.

Remedies suggested.

Acharya Vinoba Bhave and our Prime Minister have, time and anon, stressed that it is not desirable to keep on importing food from abroad, thus depending on foreign countries for our very existence. Our statistics are still a matter of jugglery and have to be taken with a pinch of salt; but if according to available statistics our deficit of food is only of the order of 10 percent of the total production, it should really be easy to cover the deficit in no time. It has been calculated that if we decrease our consumption of food per head by 2 to 3 ounces every day, the deficit can be covered in no time, but this is also re-

quired to be taken with a pinch of salt; because it is doubtful whether the figures of agricultural production and annual requirements worked out under the present system are dependable.

In order to ease the difficult situation of food we are advised on different occasions to (1) change our habits of food (2) eat more fruit (3) eat more vegetables (4) eat more flesh and fish (5) drink more milk (6) make use of subsidiary foods in our diet and (7) tighten the belt by missing one or more meals every week.

It will be seen that in recent years, especially after the last rationing, our food habits have considerably changed and there is no scope for further change in our habits. People who were eating only rice and no wheat have already taken to wheat, bajra and jawar. As regards the advice that more fruit and more milk should be consumed it is like making the sad man all the more sad. This advice appears to be like that of the king who when there was famine of grain in his kingdom asked the people to eat more of ghee and sugar. As regards flesh and fish, it will be seen that in general many people to whom this diet was taboo in the past have already taken to it and now it is more an economic question than anything else.

Flesh and fish are costlier than grains and vegetables and it is only to be imagined how many families can afford this as a regular diet even if they would like to have it. The advice that people should eat more of vegetables is practicable but the plea that more of subsidiary foods like sweet potato should be taken cannot stand.

In the days of rationing, in the Bombay State, a special campaign was undertaken to produce special crops of sweet potatoes but the produce was not received well at the ration shops and actually tons of this subsidiary food had to be converted into manure by being thrown into the manure pits. In spite of this experience, which should have been similar in other States too, to say again that subsidiary food should be grown and encouraged as a diet is to shut one's eyes to past experience and incur more waste of money. Bananas and potatoes are also recommended as subsidiary food but they cannot take the place of normal food except in times when nothing would be available. In regard to the compaign of "tightening the belt" and "missing a meal" it must be known that on religious grounds there are already many people who regularly observe fasts on one or two days in a week and to further advise mealless days is to ridicule the hungry.

Measures adopted.

The schemes for the supply of manures and fertilisers and grant of tagai rof Grow More Food Campaign and technical aids for the implementation of the schemes of the Japanese Method of paddy cultivation are already in vogue for a number of years. In spite of this, the ray of hope of achieving self-sufficiency in food is far from sight. In this connection it is argued that the ten-year period after independence is not big enough and that it is difficult to improve the bad state of affairs left by the British in the short space of time. Whatever it be, one thing is certain that the progress achieved in this period is not commensurate with the expectations and money spent.

It happens that there are many schemes which are prepared without a thorough consideration of the real state of affairs or probably there are people who are complacent or have not the courage to point out the pros and cons and the difficulties in the implementation of the

schemes or there is an attitude of laissez-faire. The targets of achievement are only on paper and are by way of mere arithmetical calculations to the disappointment of conscientious workers in the lower rungs of the ladder.

Some schemes are implemented in a curious way. If we look, for example, at the family planning campaign it will be found that it is mostly operated in towns and cities where the workers find it easy and comfortable to work. Really speaking this campaign is required to be carried on vigorously in the villages as can be seen by a study of a population statistics. The famous Malthusian theory tells us that the greater the poverty, the greater the birth rate and this is all the more so in the villages. But the campaign is carried out mostly not in the villages but in cities and towns where meetings are held, propaganda is made and self patting reports are published. The result is that the real problem remains unsolved.

As regards our food, we are told in one breath that food stocks are plenty and there is increase in production and in another breath we are told that there is shortage of rice or wheat or both. The people are taken aback at such statements with the result that the trader is busy in resorting to stockpiling and black marketing and the consumers begin to make purchases and store food by paying higher prices. Thus the vicious circle starts and artificial shortage is experienced everywhere.

In recent past, deputations were sent to China and U. S. S. R. with a view to studying the agricultural conditions there and to see how they planned improvement in agriculture. The findings have been published in the form of reports. If one takes an impartial view, it will be found that many of the recommendations made in these reports are not applicable to our conditions and some of them are implemented at huge cost. The Co-operative Farming suggested from the Chinese pattern with all its enticing features may not take root in India in the near future. It is necessary to see whether the conditions in India are such as to make a success of the Co-operative Farming of the Chinese pattern. If not, an all-out effort should be made in the first instance to create conditions favourable for the ideal of Co-operative Farming.

A close and impartial examination of the agricultural co-operative societies started in India will show that they are yet far from satisfactory. The present author knows of instances of Co-operative Irrigation Farming Societies where oil engines were purchased at heavy cost and set up ; but the cultivators are not able to use the water for farming for one reason or the other and are submerged in heavy loans taken from Government.

If it is considered dispassionately as to whether full public support is secured for the Grow More Food scheme in the Five Year Plan, it will have to be agreed that there is yet no full backing to the Scheme. It will be found that in the villages the cultivators do not feel inspired by such schemes. In the villages, there are always a few leaders who centre round the visiting dignitaries and arrange meetings where resolutions are passed and conclusions arrived at that the scheme is successful. Barring the few leaders, the cultivators show no interest.

Similarly it is worth examining as to how much of the tagai granted for purchase of improved seeds, manures and other agricultural requisites is really used for the purpose. It must be realised

that mere resolutions passed in meetings or pronouncements made are not going to yield more food. The chief thing is that every cultivator should feel inspired with zeal and take the problem of food as his own and should take an oath from the heart of hearts to produce more food.

The main recommendation out of the report of Ashoka Mehta Committee is that Boards should be established for the stabilisation of prices and fixation of prices for the agricultural produce. It is a question whether this step alone is going to solve the problem. The solutions by way of bringing about the land reform, guaranteeing proper prices for the produce and improving the land by bunding by law are being repeated in various reports from time to time and it seems as if these pre-conceived ideas are ushered in all such reports. Of course, it is time that marketing of agricultural produce should be put on proper lines so that the cultivator gets the proper price for his produce. But this can be brought about by a concerted action.

As regards land reforms also it must be seen that when once the land is given to the tiller, he puts in the maximum effort in crop output. It is not understood why the recommendations are required to be often repeated and why they cannot be carried out fully when once accepted. If the Ashoka Mehta Committee had gone into the villages, met the cultivators, talked to them and collected data from various representative villages, the recommendations in the report would have been probably different.

In our Five Year Plan the success of the Grow More Food Campaign is measured in terms of money spent. This is rather fallacious. If we can obtain the real and conscientious support from the cultivators, there is really no necessity of spending huge sums of money except on irrigation projects and supply of manure. In the very nature of these schemes, the attempt is only a disconnected patch work, each one throwing responsibility on another or on the vagaries of the season. Money is not the means but it is the zeal of the cultivator with which he puts in work that should be the means in this scheme of Grow More Food. The sooner this is realised and honest efforts made in that direction, the speedier would be the attainment of the goal in respect of production of more food.

Real Drive

A time has come when it is necessary to review and re-examine the various agricultural research schemes in the various States and assess the work turned out in all these years compared to the money spent and then continue only those that are of vital and immediate importance, with the staff that is just necessary for research work.

It would pain every one in the country to see that the output of food is still far too short of requirements in spite of the research and other work over which vast sums recovered from the people by way of taxes are being spent. The extra staff spared after discontinuance of some of the research schemes should be diverted to the field work in an all-out fashion on a real war footing. Half-way research work is of no use as it is always found that much of such work is found to be started on wrong lines later on and is left half done in later stages, tending to collossal waste of money, apart from the fact that there is no continuity of work. It is also found at times that there is good deal of duplication of work.

It is true that at the present stage we may not be able to give out results of research of outstanding fame, but there

must be something wrong somewhere if it does not tend to give an increased yield even to cover a small deficit of 10%. Probably the rigorous adoption of ordinary improvements as a result of the already existing knowledge would give a 10 percent increase in yield.

An impartial examination of some items of research work will show that they are being carried on from year to year and to consider the progress, meetings are held of workers from nooks and corners at regular intervals and much money is spent without commensurate gain to the country. It would therefore be advisable to concentrate on a few definite items in an all-out manner, say for a period of three years making it incumbent on the personel concerned that the targets must be achieved at any cost. The line of work may be as follows :—

(i) Independent non-official bodies of really selfless educated social workers with agricultural bias should be appointed for every taluka in order to arouse real enthusiasm and keenness for the Five Year Plan with special reference to agriculture among the cultivators. The non-official bodies should from time to time visit the villages in their jurisdiction and inspire the cultivators and give guidance whenever necessary. These bodies should not include Government officials even in ex-officio capacity. The Bharat Sevak Samaj have a splendid opportunity in this to see that real enthusiasm is created among the cultivators to maximise production.

(ii) The staff relieved from half-hearted research schemes of Government should be put in charge of a group of villages where they should induce the cultivators to maximise production by concentrating on a few items of known and tried improvements rather than make diffused attempts.

(iii) The programme of agricultural improvements should not be the same stereotyped one everywhere in the country by rule of three. The stress on agricultural improvements will vary from village to village according to the local conditions and availability of resources. A regular cropping scheme with due regard to the basic principles of rotation of crops, green manuring at regular intervals and judicious use of manures and irrigation and conservation of mositure would go a long way in increasing the yield per acre. Bunding and Land improvement should be carried out with the greatest vigilance. A guarantee to the cultivator to reimburse the losses if any by the adoption of improvements would encourage the cultivator to adopt improvements.

(iv) The body of non-officials should watch carefully whether the supply of seeds, manures and other requirements is made by Government Departments in time. If not the difficulties in the way should be ascertained and removed by approaching the highest authorities direct at once. Requisities supplied after the season is over serve no useful purpose.

(v) The schemes of minor and major irrigation and digging and improving of old wells should be completed without further delay. Oil engines and other appropriate water-lifting devices should be erected at Government cost wherever necesssary, the cost being recovered in due course by instalments. It should be a special endeavour to see that not a drop of water goes waste. The irrigation officers must be made to deal with the task of giving water for crops in a humanitarian way. The irrigation charges should not be too high to make it prohibitive. The irrigation laws should be such as to facilitate use of water and not to intimidate the culti-

vator. Given these facilities it will be seen that there would be a substantial rise in production per acre within a couple of years.

(vi) Arrangements should be made to see that the cultivator gets the proper price for his produce. This can be done by Government by guaranteeing the minimum prices worked out on the cost of cultivation for each of the major crops on the lines of the vegetable extension scheme that was run in the Bombay State some years ago. If the prices in the open market go artificially down, the Government should purchase the produce at the minimum guaranteed price, stock the same and arrange for sale through fair price shops. If these fair price shops are run by honest staff there is no likelihood of any loss being suffered by Government. This will create confidence in the cultivator who will direct their attention to produce more food.

(vii) The aim of the Community Development Projects and National Extension Service schemes is to bring about a change in the outlook of the people in the countryside. While this broad principle may be true the crux should really be the improvement in the economic condition of the villager and this can be brought about only by increasing his income. It is therefore necessary that the greatest stress should be laid on the increase in agricultural production. As soon as the agricultural production increases, the economic condition of the cultivators will improve and then the village will automatically go in for other improvements and amenities in the village.

We should take care not to see the same places and villages where some improvements such as new schools, roads and latrines are constructed and be satisfied that the programme has been effectively carried out nor should we be elated at the praise showered on us by outside visitors till we really grow "one and half, if not two, blades of grass where one grew before." Our attention should be shifted from meetings and shows and focussed on creating real enthusiasm among the cultivators.

Let us hope that a reorientation of the the problem of our food will be made in the right direction on the lines suggested in this article, without any more delay and that we will be independent of foreign countries in the vital matter of food, which can never be achieved by mere wishes and preachings. We in a poor country cannot afford to plan in a hit and miss manner.

DISPARITIES IN AGRICULTURAL AND NON-AGRICULTURAL INCOMES

By : **Dr. P. C. BANSIL**

MAL-DISTRIBUTION of national wealth is a common phenomenon in all under-developed economies and India is no exception to the rule. The yawning difference in the per capita income of the agricultural and non-agricultural sectors do not require much of investigations. Shah and Khambata brought it out very clearly in the early thirties. Dr. Rao thereafter came to the conclusion that urban income per head is more than three times that of its rural counterpart.

Such being the state of affairs, all governmental activities are directed towards bridging this gulf. Committed as the nation is to a socialist pattern of society, these income disparities must go. The Taxation Enquiry Commission recommended to bring them down to the level of 1 : 30, while China, as against this, is already said to have reduced this gap to 1 : 12.

With this background, we propose to study in this paper the present agricultural and non-agricultural incomes and the position that may emerge during the coming 20 to 25 years.

Agricultural population in 1950-51 constituted nearly 70% of the total and agriculture contributed nearly 49% towards the total income. On this basis, the per capita income for an agriculturist works out to Rs. 179 as against Rs. 433 in the non-agricultural sector.

Future relations in the per capita income of these two groups will depend on the following factors:—

1. Shifts in the population from one to the other sector.

2. Additions to the national dividend from the agricultural sector.

As regards the shift of population, there is little doubt that the agricultural sector will not be able to attract some of the surplus workers from agriculture. There is a proverbial under-employment and concentration of manpower in agriculture in all under-developed economies. The first and primary stage to bring an improvement in the situation lies in relieving this congestion and concentration.

The history of developed countries with regard to changes in the occupational structure gives a conclusive proof of this. The proportion of active population engaged in agriculture declined from 54% in 1870 to 23% in 1930 in the U. S. A., from 42% to 25% in France, from 85% to 51% in Japan and from 39% in 1880 to 22% in 1930 in Germany.

No reliable data about the possible shifts in India is available in the past. But whatever vague the definition of the term 'urban' may be, table 1 below shows a marked improvement in the situation.

Table 1 : Ratio of rural to urban populaton.

Census year	rural	urban
1872	91.3	8.7
1881	90.6	9.4
1891	90.5	9.5
1901	90.2	9.8
1911	90.6	9.4
1921	89.7	10.3
1931	89.0	11.0
1941	87.3	12.7
1951	82.7	17.3

From practically a static condition for a period of over 40 years from 1872, the 30 years period from 1911 to 1941 showed a slight improvement of the order of 1 per cent from decade to decade. But the 10 years 1941 to 1951 alone brought about a nearly 5% increase in the urban population. It may not be possible to find out the exact share of the agricultural shift in it. This is, however, clear that the movement had already started even before the launching of the First Year Plan.

The Second Five Year Plan points out that economic development in India "involves a transfer of a part of the working force from 'agriculture to secondary and tertiary activities". This, of course, pre-supposes an increase in productivity in agriculture itself, if the food and raw material requirements of a developing economy are to be met. It lays down a target of

Table 2

Distribution of per capita and national income of agricultural & non-agricultural populations during the period from 1950-51 to 1980-81 (at 1952-53 prices)

Year	Persons agricultural (millions)	Persons non-agricultural (millions)	Total	Per Capita Income Agricultural	Per Capita Income Non-agricultural	Per Capita Income Total	National Income Rs. in abja 1000m. Agricultural	National Income Rs. in abja 1000m. Non-Agricul.	National Income Rs. in abja 1000m. Total
1950-51	250	110	360	179	433	255	45	47	92
	(70)	(30)	(100)	(70)	(170)	(100)	(49)	(51)	(100)
1960-61	260	140	400	229	528	330	58	74	132
	(65)	(35)	(100)	(76)	(176)	(100)	(45)	(55)	(100)
1970-71	280	180	460	301	733	466	83	131	214
	(60)	(40)	(100)	(65)	(157)	(100)	(39)	(61)	(100)
1980-81	290	230	520	400	1000	667	116	231	347
	(55)	(45)	(100)	(60)	(150)	(100)	(33)	(67)	(100)

N. B.—Figures within bracket represent percentages to total.

just 10% relief to agricultural labour force by 1975-76 when this is expected to come down to 60% or so. This itself is no small a task and would involve a fourfold increase in the numbers engaged in mining and factory establishments and a consequent adjustment in the investment pattern.

Assuming that all goes well and the tempo of development takes rapid strides in the subsequent years, the maximum possible achievements in this direction can be an annual removal of about 0.5% from the primary sector during the coming three decades so that by 1980-81, this sector would be absorbing nearly 55% of the total population against 70% in 1950-51.

As for the additions to the national income from the primary sector, a lavish estimate would not imagine anything more than the achievement of the 2nd plan targets and a doubling of the agricultural productivity in a period of next 20 years, over that level.

With these basic assumptions which in themselves may be biased, if at all, towards optimism rather than pessimism, table 2 has been worked out. It highlights the fate of a worker in the primary sector as compared with his brother in the secondary and tertiary activities.

An examination of the data brings out very interesting results. Although the gap in the proportion of agricultural to non-argricultural population is reduced from 40% in 1950-51 to 10% in 1980-81, the gap between the per capita incomes instead of being reduced widens a little.

This study brings to focus some important issues. If maldistribution of national wealth is an indicator of the economic development of a country, how far India will be able to boast of her achievement in this direction after a successful completion of her six five year plans. Lest we find ourselves after 20 years at a place wherefrom we started, it would be worthwhile to give thought to the matter and find some remedial measures right now. In Sweden where the agricultural population in 1930 was only 23.5%, efforts are being made to reduce it by

4% per annum so as to raise the living standards of farmers and guaranteeing them an equality of income with other income groups. Such a drastic change in India being rather impossible, the only remedy seems to be the provision of subsidiary incomes to the agriculturist. Agriculture along with all the congenial conditions assumed, will surely not be able to play the trick.

ROLE OF JUTE IN INDIAN ECONOMY

By: **A. MAJUMDAR**

"THE whole history of man shows that his wants expand with the growth of his wealth and knowledge; and cultivated land takes the first place in the inventory of wealth"—Marshall. The economic importance of a nation depends upon the amount of wealth produced from the soil. Of the agricultural produces in India jute plays very important role in its economic life.

India in the pre-partition days had the monopoly of jute production in the world and even now it commands second place to Pakistan. It is a vegetable fibre next in importance to cotton in the country and is an important source of cash for about 15 lakhs of cultivators of States of West-Bengal, Assam, Bihar, Orissa, Uttar Pradesh and Tripura. The cultivators earned about 50 crores of rupees by producing 41.4 lakh bales of jute during 1955-56. Trade in raw jute also provides employment to a large number of intermediaries.

The jute industry in India which recently celebrated its centenary had its first mill set up in Calcutta in 1855. The story of jute, however, goes back thousands of years. Some authorities believe that the "seven green wyths" with which Delilah bound Samson were of jute. In 1855 an Englishman, George Acland of the East India Marine Service, went into partnership with a Bengali merchant Bysumber sen, and with machinery from Dundee (Scotland) set up India's first power-driven jute spinning factory.

During the last hundred years the Indian jute Industry has developed from an insignificant rival of the Dundee mills to by far the largest jute manufacturing industry in the world. From that modest beginning giving an output of eight tons a day, the industry have now the capacity to turn out about 100,00 tons[1] per month on the basis of a single shift of 48 hours a week. There are now 112 mills with a loom strength of 12,000. The Indian jute Industry has the highest loomage in the world, the European and U. K. mills have a total loomage of 21,908 as against India's 72,000. It also ranks first in the world in consumption of raw jute. In the year 1954 it consumed 57%[2] of the total world jute. The following table gives the distribution of jute mills and looms in different countries of the world.

1. This article is based on writer's thesis entitled "Marketing of jute in West Bengal" submitted for the degree of M. Sc (Ag) in Agricultural Economics Examination of 1957 of the Banaras Hindu University. The research was conducted during the year 1955-57 under the able guidance of Dr. G. S. Lavania.

1. According to Jute Enquiry Commission Report.

2. Records and Statistics, April 1956, P. 13.

Table No: 1

Number of jute mills and looms in different countries of the world [1]

Country	Number of Mills	Number of Looms
India	112	72,235
U. K.	66	11,200
Argentina	5	120
Austria	3	700
Belgion Congo	1	200
Belgium	56	3,600
Brazil	27	4,790
China	14	1,317
Formosa	2	212
Czechoslovakia	7–9	2,000
Egypt	1	112
France	109	7,600
Germany–East	5	1,200
–West	28	5,300
Iraq	1	N. A.
Italy	26	4,358
Japan	4	789
Nepal	1	337
Netherlands	12	1,300
Pakistan	6	4,000
Portugal	13	716
South Africa	2	700
Thailand	1	N. A.
Spain	N. A.	4,350
Phillipine	1	600
Sweden	3	350

1. Jute in India (1953–54) Page 19.

The jute Industry occupies an important place amongst the organized industries of the country. It is the second largest industry in respect of capital invested in India, with a share of 3.1% of the total capital investment. The total paid up capital invested in the industry is roughly about 40 crores for 108 mills in 1954–55. But according to a census compiled on the basis of returns for 104 units during 1953 by the Directorate of Industrial Statistics, Calcutta, the total capital invested in Jute Industry is over 66 crores of ruppes.

According to the Jute Bulletin of January 1955, 'the study of this subject is rendered difficult on account of the reorganisation and expansion of mills and also due to the fact that a number of private mills were later converted into public companies with larger share capital. There are still some privately owned concerns which do not publish balance sheets or progress statements which act as additional handicaps. The following table gives an idea of the steady expansion of the jute mill industry in India.

Table No. 2

Progress of jute companies in India [1]

(Capital in lakhs of rupees)

Period	% share of the jute industry to total capital	Number of jute companies	Paid up capital	Number of new companies registered	Authorised capital	Number of companies which seized to work in India	Paid up capital	Index [1] of Profits
1899–1900	8.3	21	2,88	...	...	...	...	...
1913–14	9.7	35	7,45	...	...	...	...	...
1918–19	...	43	10,35	...	...	...	...	...
1920–21	8.2	58	13,51	...	...	...	...	...
1935–36	...	80	18,48	...	...	...	...	25,9
1937–38	...	78	20,28	...	...	...	...	–9,8
1938–39	70	78	20,39	...	...	...	...	13,6
1945–46	...	92	21,56	...	...	...	...	415,4
1946–47	...	99	21,88	...	...	...	...	313,2
1947–48	4.0	100	22,99	16	835	Nil	Nil	361,2
1950–51	...	108	27,71	2	105	Nil	Nil	679,1
1951–52	...	114	28,63	5	35	2	...	183,4
1952–53	...	111	28,70	1	10	1	1	326,2
1953–54	...	109	29,00	Nil	Nil	1	2	...
1954–55	3.1	108	30,89	1	150	2	...	...

1. For the calendar year ; e. g. 1935–36 means 1936, upto 1939, 1928 = 100 ; from 1946, 1939 = 100.
.........Not available.

Source : "Progress of joint stock companies in India," Ministry of Finance.

1. Jute and Gunny Review, September 1955 Page 294.

It is evident from the above table that the progress of the industry over the past 100 years has been phenomenal. In the period 1899-1900 there were 21 mills with about 3 crores paid up capital and from this comparatively small beginning we have in 1954-55, 108 mills with roughly 40 crores paid up capital. While this in itself is remarkable and a tribute to the advantage of joint stock enterprise it is equally remarkable that the jute industry's share in total paid up capital of all industries in India has also declined. About the jute industry another point to be noted is that it has reached its full strength in the inter-war period and that by the end of the world war II it had become to be counted as old and established. There were 16 registrations in 1947-48 and only one in 1954-55-Assam jute mills with an authorised capital of Rs. 1.5 crores.

Of the jute industry it is said that along with other group indices its profits were severly affected by the depression of 1929-32 and jute profits continued to be substantially lower than in the pre-depression period. During the earlier post-war years highest peaks for jute were reached in 1943 and 1944. The years 1946 and 1947 were rather lean years for most of the industries (such as cotton and paper) and although jute profits in 1946 were somewhat better, they fell in next two years due to partition and its aftermath.

Source of Employment

The jute industry as a source of Employment makes its principal contribution to the welfare of India and particularly West Bengal where unemployment is a serious problem. The fortunes of this industry must be of vital concern not only to the Government but to all who are in any way concerned with it. The industry provides direct employment to about 3 lakh workers. Table No III gives the latest available information on the number of jute mills, the number of workers employed and their monthly earnings as obtained from the returns furnished for 1953 under the Factories Act (1948) and the Payment Of Wages Act (1936).

Table No. 3

Number of workers employed in Jute Mills and their average monthly earnings in India : State by State.[1]

State	Units	Total workers	Adult men	Adult women	Adolescent	Average monthly earning per worker in Rs.
West Bengal	99	251,921	225,343	26,394	184	76.7
Andhra	5	7,178	6,035	1,068	74	76.6
Uttar Pradesh	8	6,610	6,424	186	..	69.0
Bihar	3	5,839	5,624	215	..	63.7
Madhya Pradesh	1	794	624	170	..	64.7
ALL-INDIA	116	272,342	244,050	28,034	258	76.2

It will be noticed from the table that the bulk of the industry is located in West Bengal, which accounts for 85% of the units and 92.5% of the total employment in the industry. Out of the total labour force employed in the industry, 89.6% were men, 10.3% women and only 0.9% adolescents. The average monthly earnings of workers were the highest in

1. Jute and Gunny Review, April 1955, Page-29.

West Bengal and Andhra being Rs. 76.7 and 76.6 respectively and the lowest in Bihar at Rs. 63.7.

The economic importance of jute Industry chiefly lies besides direct employment in the indirect employment also. Apart from the balers, brokers, dealers who derive their livelihood from jute, there are lakhs of workers which supply manifold requirements of the mills and the employers of transport services.

Though no exhaustive data about these are available, still some idea of the extent of dependance to the jute industry for those who are engaged in other activities for their livelihood is as follows.

Consumption of electricity by the Indian jute Industry in 1954 was 353 million K. W. costing about 1.5 crores of rupees against 1519 million K. W. by cotton Industry 615 million K. W. by Iron and Steel industry (primary) and 261 million K. W. by paper Industry.[1]

Average annual consumption of coal by the Indian Jute Industry is more than 500,000 tons costing over 1¼ crores of rupees[2]. The following table shows the monthly average consumption of coal by jute mills for 1950 to 1954.

Table No :—4[3]

Monthly Average Consumption Of Coal BY Jute Mills

Year	Monthly average Consumption
1950	44,329 tons
1951	37,614 ,,
1952	41,206 ,,
1953	37,861 ,,
1954	36,822 ,,

The average amount spent each year on mill stores and Machinery components is over 7.5 crores of rupees.[4].

1. Jute Bulletin, Dec'55, Page-223.
2. The statesman Jute Supplement Page-xiv
3. Monthly Statistical Digest, West-Bengal, Dec'55 Page 57.
4. Jute Bulletin, December 1955, Page 223

The share of jute raw and manufactured in total movement of commodities by the Indian Railways in 1954 was 2.9%[4] The following table shows the wagon loadings of raw jute and manufactured jute in terms of 4 wheelers on Broad and Metre Gauges for April-March, 1954-55.

Table No :—5

Wagon loading (in terms of 4 wheelers) of Raw Jute and Manufactured Jute on Broad and Metre Gauges for April-March 1954-55. [1]

Commodity	Broad Gauge	Metre Gauge
Jute, raw	56,836	40,818
Jute, manufactured	4,653	3,791
Total of All Commodites	4568,058	2632,078

The partnership between the jute and the shipping industries has helped the world-wide use of jute as packing material. Jute made a modest debut in the shipping world in 1793 when Dr. Roxburgh, Curator of the East India Company's botanical gardens at Sibpur, Calcutta, made an experimental shipment of 100 tons of jute to England. From this insignificant start now India exports lakhs of tons of jute goods to every corner of the world. It is not possible to calculate the freight value owing to variations in quantities carried and the freight charged from destination to destination. The yearly average volume of gunnies exported from Calcutta by cargo during the five seasons ended 1954-55 is 916,000 tons which itself indicates its importance.

The jute industry contributes a substantial amount to the Central Exchequer by way of taxation. The following table shows the revenue received by India Government through export duty (sea customs) on raw jute and manufactured jute from 1949-50 to 1954-55.

1. The Economic Weekly, August 20, 1955 Page 1013.

Table No. 6

Yield of taxes in Indian Union through export duty (see customs) on raw jute and manufactured jute from 1949-50 to 1954-55. [1]

(All figures in lakhs of Rs.)

Commodity	1949-50 accts.	1950-51 accts.	1951-52 accts.	1952-53 accts.	1953-54 accts.	1954-55 rev.
Raw Jute	1007	2612	5933	1943	1035	710
Manufactured Jute	220	120	800	1007	527	220

Wide fluctuations in the amount received are noteworthy, it is highest in 1951-52 yielding 6377 lakhs of rupees, due to larger volume of exports than in previous years and also due to very high rate of export duties and lowest in 1954-55 yielding only 930 lakhs of rupees though the volume of export is larger than 1951-52 is mainly due to exemption of duty on jute goods from 2nd August 1855.

The West Bengal Government alone derives approximately Rs. 70 lakhs a year through the tax levied on raw jute. The following table shows the revenue receipts by West Bengal Government from raw jute.

Table No: 7[1]

Revenue receipts by West Bengal Government from raw jute for 1948-1949 to 1952-53,

(monthly average or calendar months.

Year	Agricultural Income tax in Rs	Raw Jute Tax. (in Rs.)
1948-49	360,116	380,875
1949-50	531,048	285,443
1950-51	527,587	274,457
1951-52	529,677	275,396
1952-53	510,135	274,112

The jute Industry in India is the backbone of the national economy as it is a vital foreign exchange earner. It has the distinction of accounting for approximately a quarter of the total export trade of the country. Nearly 60% of all India dollar earnings is accounted by jute manufactures. As a foreign exchange earner the jute industry has a pronounced importance and emphasises the dependence of India on the industry. It will not be out of place to quote what the Indian jute Mill Association, London Office states, " the export of Calcutta gunnies maintains jute position as India's largest dollar earner in the Commonwealth, the others being wool and tin". The importance of jute in the country's balance of payments can be judged from our Ex-Finance Minister, Mr. C. D. Desmukh's speech presenting his 6th annual budget in Parliament on February 29, 1956.

The Ex-Finance Minister said, " the dollar position has improved and India has made a net contribution of $53 million to the Central Reserve in 1955 as compared with the net withdrawal of $15 million in 1954. The improvement was achieved at a higher level of trade than in the preceding year particularly in the export of jute manufactures, vegetable oils, raw cotton and shellac ".[1] The share of jute manufactures in the export trade of India is the largest for any single commodity from pre-war years till to-day which will be evident from the following table.

1. Eastern Economist, March 5, 1955, Page: 346.
1. Monthly Statistical Digest, West-Bengal, Dec' 55, Page-67-68
2. Jute and Gunny Revied, Jan'55, Page-623.

1. The Statesman, March, 1, 1956.

Table No. 8

Trends in export of Gunnies.[1]

Exports (official year)

Season	Volume in ,000 tons	Volume in lakhs of Rs.
1939–40	1147	4872
1940–41	821	2509
1941–42	825	3535
1942–43	589	1814
1943–44	635	2979
1944–45	677	6043
1945–46	711	5953
1946–47	820	7007
1947–48	872	1,2782
1948–49	929	1,4565
1949–50	787	1,2698
1950–51	650	1,1394
1951–52	807	2,6973
1952–53	706	1,2892
1953–54	777	1,1377
1954–55	852	1,2397

1. Jute and Gunny Rewiew, July 55, Page :-220

(All figures relate to jute mills in the membership of I. J. M. A.)

Thus we see that the place of jute in the economy of India as an employer, both in agricultural and industrial sector, as a source of capital investor, as a contributor to the Central and State exchequers and so a foreign exchange earner is not over estimated.

A STUDY IN PRODUCTION ECONOMICS IN AGRICULTURE

By : **A. N. RAJAMANI**

THIS paper confines itself to an analysis of production economics in agriculture which forms part of an investigation carried out by me in the three villages of Ambapuram, Prasannaramapuram and Uluthur of the Taluk of Chidambaram in South Arcot District in Madras State, a Summary of which, together with my findings and conclusions, was published in the March issue of ' Rural India '.

The surveyed villages form the Northern boundary of the fertile Taluk of Chidambaram and are largely representative of the entire Taluk. These villages are situated within hundred yards of each other and form almost one unit on account of their contiguity and similarity in the nature of the soil and climate. The Numbers assigned to them in the Government Records are : Ambapuram : 23 ; Prasannaramapuram : 24 ; and Uluthur : 25. The annual rainfall is about 50 inches. The summer months are July and August. The South-West monsoon prevails in the next two months succeeded by the North-East monsoon from November to April. The climate is wholesome and salubrious. The method of irrigation is canal irrigation. There are about half a dozen pumping sets worked by small dynamo motors. Well irrigation is negligible.

The Vellar River, the main source of irrigation, is the outlet of Veeranam Tank fed by North Rajan Canal issuing from the Mettur Dam by a network of canal and sluices. There is regular supply of water to these villages which are on high ground and protected also from floods. The soil is uniformly black and very fertile in all these villages.

All the peasants interviewed looked highly skilled in their profession and this is supported by the facts gathered. Their womenfolk also partake in tillage

operations. The fields are not uniform in size. Fragmentation and subdivision exist to a marked degree. The principal crop of the region is paddy. The investigation was carried out during normal times. With this introduction, we come to the subject proper. Production economics in agriculture connotes input-output relations in agriculture. A knowledge of this factor is necessary for drafting any plan for development in agriculture and also for effecting reforms in the agriculture industry. Again in the present context of our country, when there is an urgency for conserving our slender sterling balances and attaining self-sufficiency in the matter of food by increasing production and to place the agricultural industry on a stable foundation, a correct knowledge of the production economics is of vital importance. Output is determined primarily by Land, Labour and Capital. Output shown in this Paper refers to the gross output. It includes the value of paddy and hay. Input includes human labour; depreciation costs in respect of implements, cattle and transport; seeds, manure, maintenance charges in respect of implements, cattle and transport; land revenue and irrigation charges. Only lands which are under personal cultivation have been taken for consideration. Suitable acreage has been added for double cropping wherever found necessary as also costs thereof. With the data eollected in the aforesaid investigation, tables are worked out and given under, so that the problem may be studied conveniently in all its aspects. Holdings surveyed have been arranged under three groups: Small holdings, 0 to 10 acres under the I group; Medium Holdings, 10 to 20 acres under the II group; and Big Holdings, 20 to 40 acres under the III group.

Table I indicates the relationship between the input and output factors:

Table 1

Serial No.	Farm Size Ac.	Total Acreage Ac.	Total Output Rs.	Total Input Rs.	Ratio of Output to Input
1	0-10	313-67	117511	54754	2.15
2	10-20	162-91	59400	30147	1.97
3	20-40	139-25	46950	27293	1.72

The ratio of output to input is 2.15' 1.97 and 1.72 respectively in the groups: 1, 2 and 3. The ratio in the first group is an example of intensive cultivation. The ratio in the second group is normal and there is a fall in the third group. The third group consists of fairly large holdings. They are subject to a high incidence of land tax. Minimum wages stipulated in the Tanjore Tenants and Pannayals Protection Act also apply to them. Thus some of the effects of the land reform measures are discernible in this group. However, the fact where the holding is small, the output is large, is demonstrated by the Table.

The lowest ratio, namely, 1.72, itself suggests that the margin of profit from land is sizable and the Law of Diminishing Returns is not in the vicinity of these lands. The highest ratio, namely, 2.15, is an example for efficient business organization and farming. The wide difference in the ratios suggests the necessity for a more judicious combination of the input factors. Therefore, a more concerted action by the landlords will place them in an enviable social and economic position.

Farm Efficiency

A better insight into the problem of economic efficiency in farms is provided

by the following Table showing the volume of output in relation to the acreage under each group :

Table II

Serial No	Farm Size Ac.	Total Acreage Ac	Total Output Rs	Total Output per Acre Rs
1	0-10	313-67	117511	374
2	10-20	162-91	59400	371
3	20-40	139-25	46950	338

The largest volume of output is recorded by the smallest farm. Output decreases as the size of the farm increases. The reason for this phenomenon may be traced to the exclusive personal attention which the peasant in the small farm devotes in his piece of land and the amount of labour that he spends on it. Land is his only property. His labour has no value elsewhere. He does not take to even cottage industries. Therefore, what all labour he could muster from his family, he religiously and passionately invests in his land. It is the only form of capital available with him at his command. This intense personal labour in the small farm is in contrast to the supervisory work just done by the landlord in the big farms.

Further, intensive cultivation in the entire big farm is not a practical proposition. The very size of it is against intensive cultivation. No wonder then that the total output in them is much less than in the small ones. This explains the rich production in small farms. Here again another noticeable point is the reduced yield in the big farms wherein lies a large scope for greater capital formation for better production especially against the background of the land-improvement opportunities presented in an increasing measure under the development schemes of the Five Year Plans. This can only be attributed to the over-all effects of land reforms as observed in Table I.

The volume of input per acre in the different size farms will show the productive activities on land. Table III furnishes details on this point :

Table III

Serial No	Farm size Ac	Total Acreage Ac	Total Input Rs	Total Input per Acre Rs
1	0-10	313-67	54754	176
2	10-20	162-91	30147	185
3	20-40	139-25	27293	196

Input increases simultaneously with increase in size of farm. This is presumably due to the fact of lack of capital formation in small farms. This also stresses the need for augmenting credit facilities to the small farm holders. Read with Table II, the input behaviour in the small farm denotes the efficiency of input factors. It is significant that with smaller input, greater output is secured. The large input in the big farms is explained by the fact that expenditure under costs other than labour, land revenue and irrigation is very large in big farms as will be seen later under Table VIII. However, the increase in inputs with increase in size of farms must directly affect the net profit per acre as shown in Table IV.

Table IV

Serial No	Farm Size Ac	Total Output per Acre Rs.	Total Input per Acre Rs.	Net Profit per Acre Rs.
1	0-10	374	176	198
2	10-20	371	185	186
3	20-40	338	196	142

The net profit in the first group is 198. It is 186 in the second and 142 in the third. There is thus a progressive fall. This fall is explained by the previous two Tables. One fact emerging from the foregoing Tables is the economic effi-

ciency of the peasant proprietorships and that only in small farms the best combination of inputs is reached. With improvements in the methods of cultivation and with the use of improved seeds and fertilizers, the net profit per acre can go still further up.

Labour and output considered together will indicate the efficiency of labour in different farms :

Table V

Serial No.	Farm Size Ac	Total output Rs	Total labour Rs.	Ratio of Output to labour
1	0–10	117511	21157	5.56
2	10–20	59400	10553	5.62
3	20–40	46950	8828	5.32

Efficiency of labour has reached the maximum in the second group. The ratio in the first group is slightly lower. This is due to the existence of fragmented plots in the group increasing incidental charges. Labour per acre decreases as size of farm decreases as will be seen under Table VIII. But depreciation costs increase as size increases. Yet output does not go up with increase in size of farms. By virtue of economies of large scale operations, labour is not so much in big farms. Because of fragmentation and scattered nature of small farms, there is more labour. Nevertheless, labour efficiency is the greatest on small farms. This suggests that economy and efficiency on large farms do not go together. If return on capital is the best criterion of progress, then, it is only the small farm that stands as the best.

Table VI shows the ratio of output to depreciation costs in farms of different sizes :

Table VI

Serial No,	Farm size Ac	Total Output Rs.	Depreciation Costs Rs.	Rate of Output to Depreciation costs Rs
1	0–10	17511	27670	4.24
2	10–20	59400	16636	3.56
3	20–40	48950	16310	2.87

While the ratio to output to capital depreciation is the largest, the total depreciation is also the largest in the small farms. This is so because their implements are not durable; their livestock are not efficient. So much so with the uneconomical use of these, capital exhausts itself very soon in small farms. Unlike in the big farms, expenditure on improved seeds, fertilizers etc. do not form any appreciable proportion in the total costs. So the small farm holders need government help in respect of cheap implements and livestock so that they can reap the benefit of economy and efficiency in these. If they could achieve this, the total profits in the small farms would be much bigger than what it is as at present. The capital investment also will last much longer.

Table VII deals with output and land revenue :

Table VII

Serial No.	Farm size Ac	Total Acreage Ac.	Total Output per Acre Rs.	Total Land Revenne per Acre Rs.
1	0–10	313–67	374	16.90
2	10–20	162–91	371	15.34
3	20–40	139–25	338	13.64

Output and land revenue both decrease with increase in size of farms. As pointed out in an earlier portion of this Paper, the soil is uniformly fertile throughout the surveyed region. If so why is there a high rate of land revenue on small farms ? As the investigation showed, it is due to double-cropping. In fact, the land tax is around Rs. 11 per acre throughout. Rs. 13.64 per acre in big farms includes incidental surcharge etc. and it does not indicate double cropping in general in big farms, although stray cases of double cropping here and there in big farms cannot be ruled out. Therefore, in the face of

uniform soil fertility, the point to be explained is the decrease in yield per acre as the size increases. For one thing, it shows the lack of sufficient interests in big farms. Although the yield per acre in large farms is less, the total gross yield or net profits may be more than enough to lead a decent life. Hence, the landlords on big farms feel satisfied with the low yield and do not evince greater interest in cultivation operations. But the small farm holders are in perpetual need of credit. Their wants are increasing as a result of urbanization. Therefore, they put in more physical labour and harvest twice. The difference in intense cultivation explains the difference in yield and land revenue per acre as between the small and the large farms.

Table VIII presents an over-all picture of the economic efficiency of farms of different sizes :

Table VIII

Serial No.	Farm size Ac.	Labour per Ac. Rs.	Land Revenue per ac.	Capital Depre-ciation per ac. Rs.	Total Input per Ac. Rs.	Total Output per Ac. Rs.	Net Profit per Ac. Rs.
1	0–10	68–10	16–90	89	175	374	198
2	10–20	65–46	15–34	102	185	371	186
3	20–30	63–36	13–64	117	196	338	142

This Table brings out the superiority of the small farms. It reveals that as between the small and big farms, input differs in value by Rs. 20 per acre, output by Rs. 36 and profit by Rs. 56. The low profit in big farms is also occasioned by a factor not represented in the Table given above. That factor is the wage structure. Minimum wages have been fixed under the Tanjore Pannayals and Cultivating Tenants Protection Act. These wage rates are higher and account for a fairly large amount in the total cost of cultivation. But there is no question of wage payment in small farms because almost all small farm holders employ family labour. The Table underlines the need for more credit facilites to the small farms. But the high rate of capital depreciation in big farms is not accompanied by any pro rata increase in output. The reason may be in the decrease in the rate of labour expenditure per acre in big farms. But under the economies of large scale operations, less labour may be theoretically alright. But in actual practice this does not strictly apply to big farms, the reason being, that the employed labour is not sufficient to coordinate properly the other production activities. This reinforces our conclusion reached under Table V that economy and efficiency on large farms do not go together.

From this analysis of input-output relations in agricultute, certain broad conclusions may be reached, in respect of the controversy regarding peasant proprietorships versus co-operative farming and fixation of ceiling on big agricultural holdings. The statistical inference is in favour of retention of small farms. They are superior to big farms in many respects. There is better output, lower input and higher profit per acre. As it is definitely shown that these decrease as the size of farm increases, it would not be wise to dissolve the peasant proprietorships and introduce co-operation on all levels. Below the acreage of twenty, co-operation is not at all imperative for farming operations.

Co-operative farming is not an unmixed blessing. It has its own limitations and evils. Nay in a way it sometimes affects the industry adversely. The owner is apt to lose his interest in the land and treat it in the long run as an investment yielding a flat return just like so many other capital investments. But consolidation is a different matter. If co-operation is essential, it is only for increased marketing activities. What they absolutely need is consolidation. But as has been repeatedly pointed out by the different Tables, the big farms over twenty acres are not functioning properly. The yield in them is not commensurate with the capital investment in them. As the case for retention of farms below twenty acres has been established, the fixation of a ceiling limit on farms above this limit may be recommended. The lands collected in excess over the ceiling limit may be used for consolidating the small farms.

Under Table I, it was surmised that the ratio of input to output in big farms may be the result of the adverse effects of land reforms such as fixation of minimum wage, definition of 'personal cultivation' etc. Hence there is also an imperative need to conduct a thorough inquiry to assess the extent of the deleterious effects of land reforms on big farms before proceeding to enact further measures. If the rigours of the land reform measures are relaxed somewhat, there is scope for increase of output in big farms. Therefore, an alternative to fixation of ceiling over twenty acres of land is to remove the angularities and rigours of the land reform measures applicable to them, so that the psychological retrogression engendered by the acts may be set aright betimes. The government lands and lands collected under Bhoodan may be used to consolidate the small farms in the absence of ceiling. The input-output ratio is the best in small farms. However, it is subject to the influence of seasonal factors such as weather and price of agricultural commodities. The ratio is likely to be very high in times of general prosperity and very low in times of general depression. It is also a truism to state that the best combination of the input factors is difficult to be realised because of the general level of illiteracy of the farmers and also because of the factors of production, land and capital are scarce commodities. Even capital can be mopped up but no appreciable addition can be made to the existing extent of arable lands. Hence it is more a question of marginal adjustment of input factors than a problem of increasing the volume of each of the input factors. The main conclusions thus are :—

(1) The small farms consisting of ten acres and less may be consolidated ;

(2) The medium farms consisting of ten to twenty acres may be retained as they are ; and

(3) Large farms consisting of more than 20 acres may be considered for fixing a ceiling limit, and the ceiling limit is obviously above twenty acres.

This plan of reform would ensure economic use of land, labour and capital, resulting in judicious combination of input factors and increased output, satisfying the needs of the industry and the country at large.

A STUDY OF THE ECONOMIC CONDITION IN THE SHAHABAD DISTRICT (Bihar)

By : **S. P. SINHA**

SHAHABAD is situated in South Bihar i. e. the portion south of the river Ganges. South Shahabad where the present study has been made, is heavily cultivated, densely populated and very fertile. Bihar is a predominantly agricultural State with 80% of her population depending on agriculture. "Shahabad is the second largest producer of agricultural produce among different districts of Bihar, Purnea being the first. The district has 17,23,000 acres of net sown area which is 61.5% of the total area." [1].

Rice is the principal crop of South Shahabad. "The crops grown are divided into three great divisions ; the 'aghani', 'bhadoi' and 'rabi' crops. The 'aghani' is the winter crop of rice which is cut in the month of Aghan (Nov-Dec). The 'bhadoi' is the early or autumn crop, reaped in the month of Bhado (Aug-Sept) consisting of 60 days rice, Marua and Kodo; while the 'rabi' crop which is so called because it is harvested in Spring (rabi). It includes such cold weather crops as wheat, barley, oats and pulses.

1. Q. B. of Statistics, Bihar, October, '52, 'article-Agricultural income and its distribution in Bihar by S. R. Bose, Page 3.

The present study of the economic condition of the farmers in South Shahabad has been concentrated in 8 villeges of P. S. Jagdispur. All categories of farmers in that area were included in the sample in proportion of their number. The sample included large sized farmers, medium sized farmers and small sized farmers. In all 52 farmers were interviewed. The sample farmers were classified into different categories according to their acreage of cultivation. On the whole they are divided into three classes ; the A type (large sized farmers), B type (the medium sized farmers) and the C type (the small sized farmers). The A type farmers were those who cultivated 20 acres or more of land ; B type who cultivated 10–20 acres and the C type who cultivated less than 10 acres of land. The survey covered the following points of information; the size of farm, family, income, expenditure, main items of expenditure, cost of cultivation, indebtedness and the general economic condition. This size of farm under survey varied from 4 acres to 63 acres, while the size of family from 4 to 16 members.

Table 1

Size of farm and size of Family

Size of farm family	1-10 acres	11-20 acres	21-30 acres	31-40 acres	41-50 acres	51-60 acres	61-70 acres	Total
5 or less membrs	2	3				1		6
6-10 ,,	16	6	1	1	3			27
11-15 ,,	3	5	3	3	1			16
16 or more members	2			1				3
Total	23	14	4	5	4	1		52

Table 1 shows that of the 1-10 acre farms 9% had 5 or less members, in the family; 69% 6 to 10 members: 13% 11 to 15 and 9% 16 or more. In this class the family with 6 to 10 members seems to be the model one. Of 11–20 acre farms 21% had 5 or less members in their family; 43% 6 to 10 members and 36% 11 to 15 while of 21–30 acre farms 75% had 11 to 15 members in their family and again of 31 to 40 acre farms 60% belonged to the same group. This suggests that in general, with the increase in farm size, the size of the family has also increased. But cases are also noticed where very large farms do not have large families. As for example of 41 to 50 acre farms 75% had 6 to 10 members while of 51 to 60 acre farms 100% had even five or less members in their families. The figures show that the largest percentage of the families (52%) had 6 to 10 members and the largest percentage of farms (44%) had 1 to 10 acres. Thus with this heavy pressure of population on small farms, there is every likelihood that the standard of living of the farmers will go down with further increase in the number of family members.

As regards income, farmers in general derive income from agricultural as well as non-agricultural sources such as cottage industries, profession, trades and services of persons living outside. But the majority of the income was from agricultural sources. As for example cent percent of the farmers were growing paddy; while 88.4% were growing rabi crops; 40.3% sugarcane and 11.5% Potatoe. These figures suggest that the farmers were growing a number of crops in course of the year, but sugarcane and potatoes do not seem to be popular with them. Thus they were getting large part of their income from food crops only which is a sign of "subsistence farming". The Rural Credit Survey in its report emphasised the fact that 70% of agricultural population in India derive their income wholly or mainly from the cultivation of land. In the district of Shahbad it is reported to be 75% of the total income. Sir S. R. Bose has calculated the gross agricultural income per head of the agricultural population to be Rs. 100.1[2] Taken broadly agriculture and activities ancilliary to it account for about 50% of the total national income. In terms of rural population earners and dependants who are sustained by agriculture constitute 81%.[3] In Shahabad it is reported to be 79%. The non-agricultural sources of income were somewhat insignificant. As for example only 3.8% of the farmers derived some income from cottage industries; 30.7% from profession; 9.6% from manual labour, 23% from remittances from outside and 7.6% from other sources. Unfortunately there are no cottage industries of repute either in the district or in the locality under survey.

Table II

Income from paddy and rebi as percentage of total income

Paddy

Percentage of total income	Number of farm units
0.1—10.0	
10.1—20.0	
20.1—30.0	1
30.1—40.0	
40.1—50.0	3
50.1—60.0	7
60.1—70.0	8
70.1—80.0	14
80.1—90.0	14
90.1-100.0	5
Total	52

Percentage of total income	Number of farm units
9—9.9	20
10-19.9	19
20-29.9	11
30-39.9	1
40-49.9	1
50-59.9	
60-69.9	
70-79.9	
80-89.9	
90-99.9	
Total	52

2. Q. B, of Statistics, Oct '52. "Agricultural Income and its distribution in Bihar"-S. R. Bose, Page 8.

3. Rural Credit Survey, Part II—Chapter 6, Page 37.

Table II shows the great dependence of farmers on only two crops, paddy and rabi. Thus 63.4% of the farmers derived more than 70% of the total income from paddy while only 28.9% of the total farmers derived 50 to 70% of the total income from paddy. Thus only 7.7% of the farmers derived less than 50% of the income from paddy. While in case of rabi 96.2% of the farmers derived 30% or less of the total income from rabi. Only 3.8% of the farmers derived 30 to 50% of the total income from rabi. The reason is that although 88.4% of the farmers grow rabi along with paddy, the proportion of the income derived from rabi is very small. The reason is that rabi a secondary crop and not a primary one as paddy. Thus the whole area is completely dependant upon paddy. This absolute dependence on one crop is also a sign of "subsistence farming".

The Rural Credit Survey Report defines subsistence economy as one consisting of numerous villages where each household is engaged in producing crops, both for its own consumption and for the payment of rent or taxes in kind. Depending on the fertility of the soil and the availability of family labour, the size of the farm is necessarily small, and generally fragmented. Except for the seasonal migration of labourers, there is no direct contact between the villages and the commercial cities.[4] Judged from these standards the farmers were mostly having subsistence farming.

This shows the old and conventional system of cultivation. Although there are facilities available in terms of seeds, manures and irrigation, the cultivation of sugarcane is not popular as it entails huge cost, which the poor and B type of farmers are not able to sustain. Thus the absolute dependence upon food crops and specially upon paddy has made the region susceptible to certain natural calamities like flood and drought. As the Rural Credit Survey has remarked, the labour of the cultivator is dependent for its annual fruition on something which is outside any one's control namely rainfall. The intensity of rainfall varies widely within the country. Although Bihar has the fortune of intense irrigation say from 25% to 45% of the total area, it has to depend greatly on rains. Shahabad is also the same and especially in paddy cultivation regular rains are of great importance. Therefore although there is the general feeling that Shahabad is one of the high income districts or a district covered by a net work of canals, there are famine pockets where irrigation facilities are lacking.

Absolute dependence upon paddy (i. e. one crop) makes the farmer pauper in case of the failure of monsoon or ravages of floods. Thus there is need for extension of irrigation, dispersion of this concentration on paddy cultivation, introduction and adoption of cultivation of sugarcane, potatoe and other varieties of money yielding crops.

The statistics collected from the survey of these 52 farmers show that farmers are in the know of cultivation of sugarcane or potatoe, but the income derived from these two sources is so insignificant that it does not add materially to their well-being. As for example 57.1% of the farmers producing sugarcane received less than Rs. 100/- and 42.9% in between Rs. 101/- and Rs. 500/-. While 66.% of those producing potatoe received an annual income of less than Rs. 100/-; 16.7% from Rs. 101 to 500/- and only 16.7% from Rs. 501 to 1,000/-.

These small contributions cannot be supposed as an indicator of the introduction of commercial crops in the production schedules of the formers. Moreover,

4. Rural Credit Survey, Vol. II, Page 152.

the commercialization of agriculture has not taken place as yet. Although the market is only at a distanee of two or three miles, the cultivators in general and those under survey in particular, sell their produce to village Sahukars and Vaiparies (traders). It is only with a few 'A' type farmers who carry their produce to grain golas or 'mandies'.

The nature and volume of expenditure indicates the standard of living of the people. The rural expenditure is a composite one consisting of that spent on cultivation and on food, cloth, education, social ceremonies, etc. Statistics have been collected to show the trend of these important items of expenditure of the farmers under study. The National Sample Survey in its report No. 3 (Aug-Nov 51) has remarked that "a marked discrepancy can be observed in the ratio of expenditure between villages and towns or cities on fuel and light or on cloth.

The expenditure for fuel and light was lowest in villages and highest in cities; for cloth it had a gradual rise from the village to the cities and the same is true of education etc." In the survey, of the total expenditure of all the farmers under study, expenditure on cloth was only 6.8%; on housing 2.5% and on lighting 0.7%. The figures do not give a very encouraging picture of the economy.

Further analysis of expenditure on food, education, social ceremonies and on medicines will show that the largest part of the total expenditure is on food only. The tables have been prepared on the basis of family unit, for expenditure on food, education, social ceremonies and medicines; and on the assumption of annual expenditure. So the analysis is per family per annum expenditure on above mentioned items.

5. Rural Credit Survey, Vol. II, Page 88.

Table III

Size of Farm & Per Acre Expenses on Cultivation.

Per acre expenses on cultivation. (Rs) / Size of farm Acrs.	20–35 (Rs)	35–50 (Rs)	50–65 (Rs)	65–80 (Rs)	80–95 (Rs)	95·120 (Rs)	More than 120 (Rs)	Total
1–10	3	2	5	4		6	3	23
11–20	1	3	4	4	2			14
21–30		1	1	2				4
31–40	1	1	2	1				5
41–50		3			1			4
51–60			1					1
61–70		1						1
Total	5	11	13	11	3	6	3	52

Table III shows the size of the farm and the per acre expenses on cultivation. The combination of crops for all farmers is more or less similar. While preparing the cost of cultivation the following items have been included; labour charges, expenses on seeds, manures, implements, rent and water tax. The personal labour of the farmer has been excluded. The table shows that of farms with 1 to 10 acres 13% spent Rs. 20 to 35/–; 9% Rs. 35/– to 50/–; 22% Rs. 50-65/–; 17% Rs. 65-80/– 26% Rs. 95-120/– and 13% above Rs. 120/- per acre. In this class the expenditure

is widely distributed because while those spending below Rs. 65/- (43%) spent less amount on labour charges the other 57% spent more on labour charges with the result that their expenditure was high. Of farms with 11 to 20 acres, 7% spent Rs. 20-35/-; 21% Rs. 35-50/-; 29% Rs. 50-65/-; 29% Rs. 65-80/- and 14 % Rs. 80 to 95/-. Of those with 21 to 30 acres, 25% spent Rs. 35 to 50/-; 25% spent Rs. 50 to 65/- and 50% Rs. 65 to 80/-. Of those with 31 to 40 acres, 20% spent Rs. 20 to 35/-, 20% Rs. 35 to 50/-; 40% Rs. 50 to 65/-; 20% Rs. 65 to 80-/. In all these groups the majority of farmers have spent in between Rs. 35 to 80/- per acre. For example about 79% of the farmers with 11 to 20 acres, all of the farmers with 21 to 30 acres and 80% of the farmers with 30 to 40 acres spent Rs. 35 to 80/- per acre. Thus the average per acre expenditure on cultivation seems to be varying between Rs. 35 to 80/-.

This group constitutes 67% of the total farmers. With the increase in size, the expenditure per acre has also increased as for example of those having 41 to 50 acres 75% spent Rs. 35 to 50/- while 25% 80 to 95/-. Not only that, of the total farmers, while 31% spent in between Rs. 20 to 50/-; 69% spent more than that. One of the main reasons for high expenditure on cultivation is the scarcity of labour and its high cost. Most of the farmers have to spend a lot on labour charges. Thus the small farmers who belong to Rajput, Kaishtha or Brahmin castes spend a lot on labour charges as they do not put in their personal labour. These castes think it beneath their dignity to cultivate land personally, while some of the big farmers, who supply their own labour, incur small amount of expenditure and thus are able to derive surplus income out of land.

Table IV

Size of Family And Expenditure on Food.

Exp. on food Size (Rs.) of family	1000 or less (Rs.)	1001 to 2000 (Rs.)	2001 to 3500 (Rs.)	3501 to 5000 (Rs.)	5000 & above (Rs.)	Total
5 or less	4	4				8
6 to 10	9	12	2	1	1	25
11 to 15		5	7	1	3	16
16 or more		2	1			3
Total	13	23	10	2	4	52

Expenditure on food has been calculated for the whole year, on the basis of family units. The per family expenditure on food varied from Rs. 1000/- or less to Rs. 5001/- and above but the concentration has been in the group Rs. 1000/- or less to Rs. 2000/- as the expenditure on food of 69% of the families belonged to this class. Table 4 shows that of the families with 5 or less members 50% spent Rs. 1000/- or less on food; while the other 50% spent in between Rs. 1001 to 2000/-. Of the families with 6 to 10 members, 36% spent Rs. 1000/- or less; 48% from Rs. 1001 to 2000/-, 8% Rs. 2001 to 3500/-, 4% Rs. 3501 to 5000/- and 4% 5001 and above. In this class the great majority 84% spent in between Rs. 1000/- or less to Rs. 1000 to 2000/-. Of families with 11 to 15 members, 31% spent Rs. 1001 to 2000/-; 44% Rs. 2001 to 3500/-; 6% Rs. 3501 to 5000 and 19% 5001 and above. This shows that with increase in members in the

family, the expenditure has also increased as 69% of this group spend more than Rs. 2001/- While of the families with 16 or more members only 33% spent over Rs. 2001/-. Any way it cannot be forgotten that food is the main item of expenditure in rural areas.

The National Sample Survey in its report No. 3 (Aug-Nov '51) made the following observations that there was great difference in the volume of expenditure made in the villages, towns and cities. According to its report, the consumption expenditure in the villages per person, per month during the period under review was Rs. 24/-, while in the towns it was Rs. 32/- and in the large cities it was Rs. 26/-. Moreover, the distribution of the expenditure over different items showed a bias in favour of food items especially in case of rural people. As for example while in the villages, 40% of the expenditure went to food grains only, in the towns it was 22% and in the cities it was 11% only.

These figures indicate that while the per capita expenditure is lowest in the village, there is little left after spending over food, to meet other requirements of life especially goods belonging to the group 'comforts and luxuries', which indicate a higher standard of living. In Bihar, the urban expenditure per Capita is 43% higher than rural expenditure and urban income is 75% higher than the rural income. Of the total expenditure of all the 52 farmers under study 70% was spent on food. Thus very very little is left for education or other things. This again reflects the subsistence farming' nature of their economy.

Table V

Size of family and expenditure on education

Expnd. on education Rs Size of family	Nil	0 to 100 Rs.	101 to 500 Rs.	501 to 100 Rs.	1001 & above Rs.	Total
5 or less	3	2	1	1		7
6 to 10	18	2	3		3	26
11 to 15	8	2		1	5	16
16 or more	1	1	1			3
Total	30	7	5	2	8	52

Table V shows that of the families with 5 or less member 43% spent nil; 29% from Rs. 0 to 100/-; 14% Rs. 101 to 500/-; 14% from Rs. 501 to 1000/-. Of families with 6 to 10 members 69% spent nil, while 8% spent from Rs. 0 to 100/-; 11.5% from Rs. 101 to 500/- and 11.5% from 1001 and above. Of families with 11 to 15 members 50% spent nil; 13% from Rs. 0 to 100/-; 6% from Rs. 500 to 1000/- and 31% Rs. 1001 and above. Of families with 16 or more members 33.3% spent nil; 33.3% Rs. 0 to 100/- and 33.4% Rs. 101 to 500/-. The figures show that a large percentage of the families in each group were not in a position to spend any amount on education.

Thus on the whole while 58% of the total families spent nil; 13% spent 0 to Rs. 100/-; 10% Rs. 101 to 500/-; 4% Rs. 501 to 1000/- and 15% Rs. 1001 and above. Naturally very few families had the opportunity of giving higher education to childern which is costly. The reason is that the farmers have small incomes as farm holdings are small. So most of the children read in the village L. P. School and if they go for higher education, that is limited to middle

schools or high schools which are at a distance of two or three miles from the villages under study and which do not entail any expenditure except the tuition fee because they go daily to attend the school and return to their homes. Naturally only a few people have the income to educate their children in Colleges. As for example, of the total expenditure of all the farmers under study, only 9.7% was being spent on education. Even the national Sample Survey Report has remarked that the expenditure on education is rather insignificant. Thus development of free education or creating conditions for enabling a surplus income to the farmers to be spent on education is essential for without education, no progress can be achieved and the rural India shall remain backward and conservative.

Table VI

Size of family and Expenditure on social ceremonies

Expnd. on Social ceremonies (Rs.) / Size of family	0–50 Rs.	51–150 (Rs)	151–300 (Rs)	301–500 (Rs)	501 & above (Rs.)	Total
5 or less	5	2	1			8
6 to 10	23	2				25
11 to 15	9	4		1	2	16
16 or more	2	1				3
Total	39	9	1	1	2	52

Table VI shows the variation of expenditure on social ceremonies. The expenditure varied from Rs. 0 to 501 and above. Expenditure between Rs. 0 to 50/– seems to be the average expenditure on this item, because, of the families with 5 or less members 62.5%; of families with 6 to 10 members 92%; of families with 11 to 15 members 56% and of families with 16 or more members 67% were in this group. On the whole 75% of the total families spent from Rs. 0 to 50/–. This suggests poor economic condition of the farmers because the social ceremonies in the rural areas are marked with extravagant expenditures, provided the families are in a position to incur it. Most of the families under study are either of farmers belonging to C type or B type who have little or no surplus to spend on social ceremonies.

Table VII

Size of Family and Expenditure on Medicines

Size of family / Expnd. on medicines Rs.	0–50 Rs.	51–150 Rs.	151–300 Rs.	301–500 Rs.	Total
5 or less	3	4	1		8
6 to 10	12	11	2		25
11 to 15	3	11	1	1	16
16 or more	1	2			3
Total	19	28	4	1	52

It is, therefore, suggested that intensive effort should be made through National Extension Services to introduce farming of sugarcane, potatoe, etc. by granting seed loans, fertilizers and by extending minor irrigation facilities. Moreover, fragmentation of holding and lack of co-operative efforts do not allow for concentration of efforts for improvement of cultivation. The area under survey has no co-operative society worth the name. Efforts should be done to organise co-operative societies in the nature of better farming societies or multi-purpose societies. It is hoped that with the opening of National Extension Block in that area, attention of the Government will be drawn to these felt needs and enthusiasm will be created in the people to solve their problems by mutual help.

TOBACCO MANUFACTURE IN INDIA

By: Prof. **PRAKASH CHANDRA TRIPATHI**

Origin and importance of tobacco

TOBACCO is an American plant. When America was discovered, the use of the leaf was an immemorial custom among the natives of both continents. Now it has become exceedingly important in international trade. The tobacco industry of India occupies an important place in the economy of the country. Tobacco is one of the leading cash crops like cotton, jute and sugarcane. It provides an annual income of about Rs. 33 crores to the Indian growers. The export earnings of this commodity are about Rs. 15 crores annually and it brings to the exchequer about Rs. 34 crores per year by way of excise duty.

Tobacco and physical environment

Few plants are more sensitive to conditions of climate and soil than is tobacco. Nevertheless, few crops are less restricted in world distribution by these same conditions. It is grown in all latitudes from Canada to the tropics and the southern hemisphere. It is probably native to the humid subtropics and requires considerable moisture, but it can be grown under irrigation. Tobacco is highly sensitive to frost, but has a short growing season and can mature in regions of short summers.[1] It requires a good soil and heavy manuring. The best kind is a well-drained friable, sandy loam, not too rich in organic matter, but rich in mineral salts like potash, phosphoric acid and iron. It is the quality of the leaf that is most influenced by soil and climate. Cool moist summers and light, porous soils tend to produce leaves of fine texture and weak aroma. Heavier soils and higher temperatures tend to produce smaller, thicker leaves of stronger aroma.

Indian tobacco regions.

Although the area under tobacco cultivation in this country is only 1/3 percent of the total area under agricultural cultivation (9.2 lakh acres in 1955-56), India stands third in the production of tobacco in the whole world, the first two being the U. S. A., and China. Its output during the year 1955-56 was about 2.6 lakh tons.

The production of tobacco in India is concentrated in 4 main regions :—

1. The Indian variety of tobacco (Nicotiana Rustica) is a more rapidly growing species than the variety generally grown in the temperate regions of the world (Nicotiana Tabacum).

(1) *Guntur area of Andhra state* :— This is the most important area for tobacco cultivation, accounting for 44% of the entire tobacco production in the country. Another remarkable thing about tobacco production in this area is that it grows 95% of the Virginia cigarette tobacco which is one of the exotic types of Nicotiana tabacum. This quality of tobacco finds a ready market in the U.K., the Middle East and Pakistan and is used for the manufacture of cigarette and pipe tobacco.

(ii) *Nipani (Belgaum district) in Bombay State* : Next to Andhra comes the State of Bombay (about 80 million pounds). This tobacco is utilised for Bidi manufacture.

(iii) *Farrukhabad, Sitapur and Meerut districts of Uttar* Pradesh account for 40 million pounds of tobacco. A major portion of the tobacco grown here is utilised for hooka and bidi manufacture.

(iv) *Muzzafarpur–Dharbhanga area in Bihar State* : The tobacco grown here is utilised for chewing, snuff and for cigarette manufacture.

Tobacco is also grown in other States in the Indian Union like West Bengal, Orissa, Assam, Mysore, East Punjab, Madhya Pradesh, Rajasthan etc.

In West Bengal, tobacco tracts include Jalpaiguri and Cooch Bihar; some quantities are also raised in Hooghly. West Bengal raises only cigar tobacco and hooka tobacco. In East Punjab, tobacco is cultivated particularly in the districts of Jullundhar, Hoshiarpur and Gurdaspur and in Mysore in the Bidar district.

Tobacco Manufacture

India manufactures cigarettes, cigars, cheroots, bidies, snuff and chewing and hooka tobacco. Save for cigarette factories and certain cigar factories, the manufacture of tobacco products like bidi, hooka and chewing tobacco and snuff is carried on the cottage industry basis.

The cigarette industry is a large scale factory industry requiring large capital equipment. The industry has made rapid progress during the last 20 years particularly in the post-war period. Prior to the II world war, the cigarette industry's intake of tobacco was of the order of 23 million pounds. Thereafter it has increased steadily and in 1956, the industry consumed about 60 million pounds of tobacco. Cigarette production before the II World war was about 750 crores. It has now increased appreciably and in 1956 the production figure was about 2400 crores. There are about 14 operative factories in the tobacco industry concentrated mostly in Bombay, West Bengal and the former Hyderabad States.

The cigar and cheroot manufacturing industry has not developed as well as the cigarette industry. There are about 25 cigar and cheroot factories in India situated in the states of Madras and West Bengal. Madras is the main cheroot manufacturer. Cheroot making is practised as a cottage industry. Rolling of cheroot and management of business is always done by woman labour. The quality depends on the coloured leaf wrappers, filler leaf and flavour. The Madras cheroots are large, thin and dark coloured.

Bidi is a cheap smoke. Bidi manufacture extends both in northern as well as southern India. Its importance is both as an indigenous as well as commercial industry. There are about 1,100 bidi factories, concentrated mostly in Bombay, Madhya Pradesh and Bihar.

The manufacture of Bidis is more popular in the Deccan than in northern

India. Poona is considered as pioneer of bidi manufacture in southern India. Bhandara district in Madhya Pradesh has special advantage for bidi industry. Cheap and plentiful supply of wrapper leaf and labour have given vitality to the industry there. It is a flourishing industry in Madhya Pradesh and gives employment to over 42,000 persons. The Deccan forests abound in the wrapper leaves, which are obtained at a very low price.

Hooka tobacco is an important smoke for northern India. All town and villages manufacture hooka tobacco. Delhi, Lucknow, Rampur and Gorakhapur are the chief centres. There are two types of hooka tobacco ; one is 'karuwa' and the other 'mitha'. Cured tobacco plant is dried and powdered. This powder is mixed with the jelly obtained from semi-used molasses. The kinds of 'karuwa' and 'mitha' are made accordingly to the proportion of mixture and various ingredients to give smelling and taste.

Zarda or Danedar are the chief chewing tobaccos in the market. Bombay and Uttar Pradesh (Delhi, Lucknow and Banaras) are the most important places of manufacture. There are 186 chewing factories, mostly concentrated in Bombay. Next come U. P., Madras and West Bengal. The manufacture of snuffs extends all over India. But Madras, Bombay and U. P. are the chief manufacturing centres. There are about 31 snuff factories of which Madras accounts for 22, U. P., 7 and Bombay 2.

Tobacco by-products.

At the national Chemical Laboratory, Poona, a simple process has been developed for the recovery of Nicotine from tobacco waste. The average annual production of tobacco in India may be estimated at 560 million pounds and the tobacco wastes obtained in different stages of processing may be estimated at about 38 million pounds, of which 33 million pounds are used for agricultural purposes, and 5 million pounds are destroyed. The entire quantity of waste and about 25 million pounds of tobacco stalk may be available for extraction of nicotine sulphate every year. The nicotine sulphate obtained from this process is an effective insecticide and forms the basic raw material for the production of nicotine acids and nicotinomide. Some of the foreign tobacco producing countries like Turkey, U. S. A. and Cuba have shown interest in this process. In Argentina, sulphate of nicotine used to combat agricultural and animal parasites and nicotinic acid itself, valuable for making up human vitamin defieciencies, is produced by the scientists from the factory waste matter.

Foreign trade in tobacco

About 80 % of the tobacco production in India is consumed internally and only 20 % is exported to foreign countries. The most important buyer of Indian tobacco has all along been the U. K., which buys nearly 40% of our tobacco. The U. K.'s purchases generally consist of Virginia tobacco of high quality. The next important buyer is China where the medium and low grades of Indian flue-cured Virginia tobaccos are mostly in demand. These tobaccos find a good market in Hongkong, Indonesia and Japan also. Imports of tobacco into India are very few and are steadily diminishing every year.

To capture foreign markets our manufactured products must have high quality standards. This would necessitate the production of high quality raw tobacco (flue-cured Virginia tobacco) which, at present is mostly grown in the Andhra state. In this respect the

achievements of the Indian Central Tobacco Committee, which was constituted in 1945 are worth mentioning. The Committee's plan envisages comprehensive research, development and marketing of tobacco and its products. A substantial progress has been made by the Committee in this direction but there is still a large leeway to be made up. The Committee's main object is to improve the quality of the tobacco leaf and to increase the tobacco yield per acre with the help of sustained reasearch and intensive cultivation and thus make India self-sufficient in respect of different varieties of tobacco and also to find an ever increasing market for our products in the foreign countries.

Export Promotion Council for tobacco designed to promote the export of this important foreign exchange earner has also been registered in Madras in 1956.

Further Government assistance needed

Out of a total of 14 operative factories in the cigarette industry more than 65 per cent are non-Indian. These units with the advantages of an earlier start and enormous financial and other resources, account for over 90 percent of the total output of cigarettes in the country. The balance of the domestic output shared by several indigenous factories incapacitates them, individually and even collectively, to stand up to the intense competition. The operation of these units and their predominant position in the industry results in a sizable annual drain of our precious resources. The country pays every year enormous sums of money by way of royalties and for the transfer of portions of the high salaries paid to the staff as well as the profits themselves.

Region-wise reservation of markets for specified varieties, in particular price ranges may perhaps help the indigenous units to consolidate their activities and plan their expansion in a systematic manner. The levy of excise on all manufactured tobacco in general, and all cigarettes in particular provides the right administrative machinery to implement such a reservation without undue cost. The reservation of all additional output for the indigenous sector may be another form of assistance that could be examined. How far Government purchases of cigarettes for their departmental requirements such as the Defence, Railways, Police, Jails etc., can be made exclusively from the indigenous manufactures may also be carefully examined.

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